

Claims

1. An engine fastening structure for connecting a cylinder body or a cylinder head via the cylinder body to a crankcase with connecting bolts, characterized in that the crankcase is constructed in such a manner that an iron alloy bearing member for supporting a crankshaft bearing is insert cast in an aluminum alloy, in that the bearing member comprises a bearing portion which surrounds the circumference of a journal portion of a crankshaft and connecting boss portions which are integrally formed in such a manner as to extend toward a cylinder body side from sides of the bearing portion which are situated opposite across a cylinder axis as viewed in a direction in which the crankshaft extends, and in that the connecting bolts are screwed into the connecting boss portions, respectively.
2. An engine fastening structure as set forth in Claim 1, characterized in that a case side flange portion which is integrally formed on the cylinder body is connected to the crankcase with the connecting bolts, which are disposed so as to overlap the crankshaft bearing as viewed in a direction in which a cylinder bore axis extends.
3. An engine fastening structure as set forth in Claim 1 or 2, characterized in that a connecting boss portion is provided which is disposed so as to overlap the cylinder axis as viewed in the direction in which the crankshaft extends.

4. An engine fastening structure as set forth in any of Claims 1 to 3, characterized in that a balance shaft is disposed in parallel with the crankshaft in the vicinity thereof, and in that the balance shaft is supported by the iron alloy bearing member.
5. An engine fastening structure as set forth in any of Claims 1 to 4, characterized in that the crankcase is of a left and right divided type in which the crankcase is divided into left and right case portions in the direction in which the crankshaft extends, and in that the bearing member is embedded in a side wall of each of the left and right case portions so as to support left and right journal portions of the crankshaft.
6. An engine fastening structure as set forth in Claim 5, characterized in that the balance shaft is also used as a connecting bolt for connecting the left and right crankcase portions together, and in that a flange portion which abuts with an outer surface of the bearing member is formed at one end portion of the balance shaft, whereas a threaded portion on which a nut member is to be screwed is formed at the other end portion of the balance shaft.
7. An engine fastening structure as set forth in any of Claims 1 to 6, characterized in that a cylinder body side end face of the connecting boss portion is embedded inwardly without being exposed to a cylinder body side mating surface of the crankcase.